

WAFER PROBE STATION HAVING SKIRTING COMPONENT

ABSTRACT

A probe station includes a fully guarded chuck
5 assembly and connector mechanism for increasing sensitivity to low-level currents while reducing settling times. The chuck assembly includes a wafer-supporting first chuck element surrounded by a second chuck element having a lower component, skirting component and upper
10 component each with a surface portion extending opposite the first element for guarding thereof. The connector mechanism is so connected to the second chuck element as to enable, during low-level current measurements, the potential on each component to follow that on the first
15 chuck element as measured relative to an outer shielding enclosure surrounding each element. Leakage current from the first chuck element is thus reduced to virtually zero, hence enabling increased current sensitivity, and the reduced capacitance thus provided by the second chuck
20 element decreases charging periods, hence reducing settling times. With similar operation and effect, where any signal line element of the connector mechanism is arranged exterior of its corresponding guard line element, such as adjacent the chuck assembly or on the
25 probe-holding assembly, a guard enclosure is provided to surround and fully guard such signal line element in interposed relationship between that element and the outer shielding enclosure.